

Trac Software for Turfgrass: TracGolf, TracGrounds, TracSod, and TracLawn 2008 Report

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Abstract

We developed *Trac Software for Turfgrass*—user-friendly software, specifically designed for professional turfgrass managers in New York State to record, organize and report pest management and fertilization practices. It consists of 4 programs, TracLawn, TracGrounds, TracGolf and TracSod. This Excel-based software program, makes record-keeping and reporting for government agencies easier, improves the accuracy and consistency of pest management records, and promotes the practice of IPM. CDs of the software, including an instructional manual to guide users, were made available and distributed in 2008. This work is funded by the New York State Turfgrass Association and the New York State IPM Program.

Background and Justification

Documenting pest management and fertility practices is a fundamental component of good integrated pest management (IPM), and pesticide records are specifically required by law. Records help turf managers determine trends in pest occurrence and severity, track susceptible areas, observe influences of cultural practices, and assess the efficacy of pesticides and other pest management practices. However, turfgrass managers often lack a practical, organized and efficient system for tracking their pest management practices. User-friendly software, specifically designed for lawns, golf courses and parks in New York State, would lessen the burden on managers, improve the records they keep, and result in improved IPM.

Commercial pesticide applicators are required by the New York State Department of Environmental Conservation (DEC) to maintain pesticide application records, and submit them to the department annually. Both commercial and private applicators are required by state and federal regulations to keep records of their pesticide use. Although they are not required to submit these records, they must be maintained and available for audit. A customized software program would allow turfgrass managers to keep all pesticide records in one file, and generate specific records as needed—including the "Certified Private Applicator Record of Restricted Pesticide Purchase and Use" form that is required by the DEC.

The agricultural crop industry in the U.S. and around the world has had an increasing focus on the traceability of the practices and products used to grow food—often resulting in additional documentation requirements from processors, distributors, retail stores and other marketers and end-users. To help growers face the myriad of reporting requirements from these sources as well as government agencies, the NYS IPM Program developed Trac© Software. Trac is an Excel-based record-keeping system for recording plant protection applications and generating specific forms to meet the requirements of government agencies, processors and growers. Since 2003, TracApple, TracGrape, TracBerry, TracPear, TracCherry and TracStoneFruit have been created to serve New York's fruit industry. Trac effectively streamlines the burdensome task of record keeping and reporting. The current Trac software keeps records up-to-date, generates reports, analyzes pest management strategies and can therefore improve the practice of IPM. Instead of filling out several forms for different processors, buyers and government agencies, growers enter

information once in Trac© software, and the forms required by each buyer and agency are created. We initiated this project because the turfgrass industry will also benefit from Trac software.

Procedures

We created *Trac Software for Turfgrass* by tailoring Trac to meet the needs and requirements of sod farmers, schools, golf courses, parks, and lawn care companies in NY. It consists of four files, TracLawn, TracGrounds, TracGolf and TracSod, which are all available on one CD. Like Trac for fruit, the Trac turfgrass files consolidate and streamline record keeping for turf managers and automatically generate business and site specific forms that meet DEC and EPA requirements, as well as the pest management needs of individual turf managers. We believe that by making thorough documentation of pest management practices easier, *Trac Software for Turfgrass* advances changes in plant protection methods that will further encourage and enable the turfgrass industry to manage pests in a cost effective, environmentally sound manner.

Trac works by the user filling in the blanks on data entry worksheets in Excel. Drop-down lists for sites, pesticides, and pests are provided—saving time and preventing typographical errors. The software also generates drop-down lists specific to the user's business. When a pesticide trade name is selected from the list, the program automatically fills in the EPA registration number, restricted entry interval, pre-harvest interval, and calculates the earliest harvest date. Some of the special features of Trac include: comprehensive drop-down lists of sites, pests, and pesticides; automatic EPA registration numbers linked to pesticides; harvest data sheets; and site data sheets—all designed to facilitate managers' record-keeping and reporting of turf protection inputs. The pesticide specific information and the output forms are customized for turfgrass in New York State. The ability to calculate spray rates, track weather, and record unit-costs of pesticides and fertilizers that enable cost calculations are also incorporated into Trac files.

Objectives

- 1) Develop *Trac Software for Turfgrass*
- 2) Debug and field-test *Trac Software for Turfgrass*
- 3) Develop an instructional manual
- 4) Copyright *Trac Software for Turfgrass*
- 5) Release and distribute the software to turfgrass managers
- 6) Project Evaluation

Results

Objectives 1-5 were completed in 2008. The *Trac Software for Turfgrass* has four files: TracLawn, TracGrounds, TracGolf and TracSod. Each file contains a master template in which field records are entered and from which required data are automatically sent to reporting forms. The templates are customized to include comprehensive lists and drop-down menus for: school and institutional grounds and athletic fields, golf courses, parks, and lawns; pesticides that are legal in New York State; non-pesticidal methods of pest management; and target pests. Files also include record-keeping and reporting sheets for the DEC, EPA and for personal use by turfgrass managers.

Trac Software for Turfgrass was copyrighted, and licensed through the Cornell Center for Technology Enterprise and Commercialization (CCTEC). All four files: TracLawn, TracGrounds, TracGolf and TracSod; are contained on one CD along with an instructional manual. CDs were distributed to the approximately 1,500 members of the NYS Turfgrass Association, as part of the original grant from that organization. CDs are also available to non-NYSTA members through CCTEC.

Objective 6, Project Evaluation, is an ongoing process. Several users have complimented us on the utility of TracLawn, TracGrounds, TracGolf and TracSod. Our tech support calls and emails help us to identify the areas where users may have trouble. Most questions have come in two categories: trouble with Excel basics, and inability to type into an output form. Users unfamiliar with Excel are pointed to the many tips and shortcuts for navigating Excel found in the manual and the online FAQ. It also contains advanced tips for customizing worksheets and output for more experienced Excel users.

For users trying to type into a report form, we explain that the cells are protected, because these are output forms, generated from the information they entered into the various worksheets. Overriding these cells would undermine the whole premise of Trac. They could type into a blank form, but that's no better than filling the form out by hand.

Expected Outcomes/Impacts

An easy and simple-to-use software system that stores pest management records and generates the appropriate forms needed for reporting to the DEC and EPA, as well as in-house records, has great utility. Trac files consolidate and streamline record-keeping for turf managers and automatically generate business and site specific forms that meet DEC and EPA requirements, as well as the pest management needs of individual turf managers. We believe that use of *Trac Software for Turfgrass* will advance changes in plant protection methods that will encourage and enable the turfgrass industry to manage pests in a cost effective, environmentally sound manner. Turfgrass managers can better manage their businesses and make more informed IPM decisions if they are able to easily access computer records of pesticide applications and compare pest management practices from year to year, and track costs and efficacy.

Additional Information and Obtaining a Copy

For additional information about *Trac Software for Turfgrass*, including how to obtain a copy, go to: <http://nysipm.cornell.edu/trac/>.